DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-014509
Date Inspected: 01-Jun-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: Bernard Docena, Mike Johnson Jesse Cardenas

Inspected CWI report:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified 2W/3W-C, 1E/2E-D, 3W/4W-F and 4W/5W-A and the following observations were made:

3W/4W-F

The QA Inspector randomly observed the ABF welder Xiao Jian Wan had previously started the induction heating blankets on the inside of OBG to ensure the minimum required preheat of 150°F was achieved prior to welding. The QA Inspector randomly verified utilizing a 150°F temperature indicating marker and noted the minimum required preheat had been achieved. The QA Inspector observed the ABF welder to be utilizing flux cored arc welding (FCAW) manually for the above identified weld joint. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector identified as Tony Sherwood set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3040B-3. The QA Inspector randomly observed the FCAW parameters were 222 Amps, 23.2 Volts and a travel speed of 180mm/min. The QA Inspector randomly observed the ABF welder identified above start the FCAW root pass in the am. The QA Inspector noted the ABF welder spent the remainder of the QA Inspectors shift performing the FCAW fill passes. The QA Inspector randomly and periodically observed the welding at the above identified location. It was noted by the QA Inspector the ABF welder did not complete the FCAW on the QA Inspectors shift.

2W/3W-C

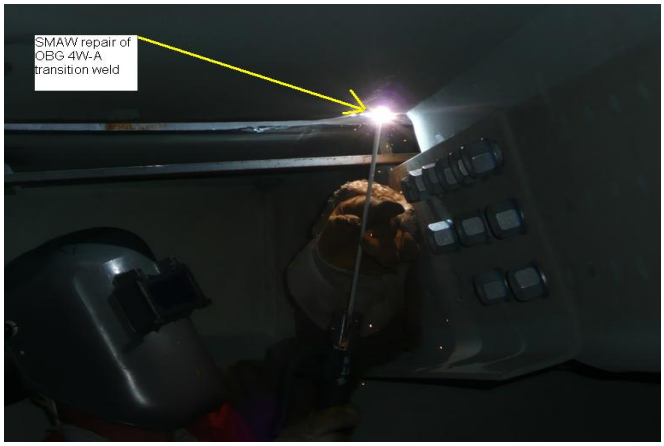
The QA Inspector randomly observed the ABF welder identified as Bryce Howell performing plasma arc gouging of the above identified weld joint. The QA Inspector noted the weld joint back gouge appeared to be

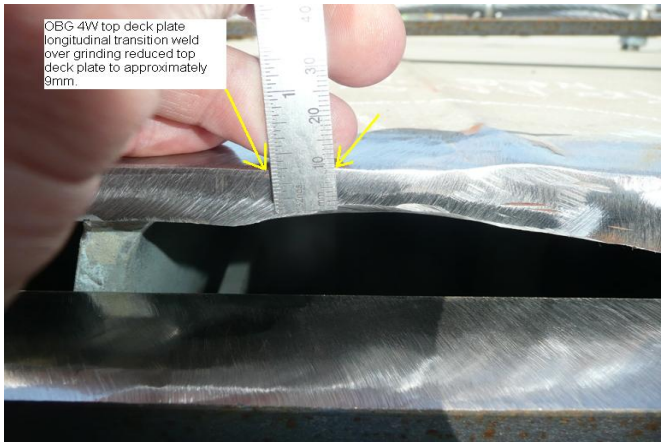
approximately 75% at the end of the QA Inspectors shift. The QA Inspector noted the steel backing bar was still in place at various places long the weld joint. The QA Inspector noted the ABF welders Jeremy Doleman and Rory Hogan began moving the FCAW equipment to the above identified location begin FCAW back welding when the back gouging is completed.

1E/2E-D
Upon the arrival of the QA Inspector, the ABF welder identified as Mitch Sittinger was setting up to perform excavations and weld repairs of previously rejected and indicated weld defects. The QA Inspector randomly observed the ABF welder begin excavating the indicated area of the above identified weld joint. The QA Inspector noted the ABF welder was utilizing a burr bit grinder to perform the weld excavation. The SE QC Inspector Jesse Cayabyab informed the QA Inspector the excavation is being performed from the outside of the OBG do to the fact the weld defect is located partially under a longitudinal stiffener plate. The QA Inspector randomly observed the excavation through completion. The QA Inspector performed visual testing and random dimensional verification of the excavation. The QA Inspector randomly observed the excavation dimensions to be 173mm X 26mm X 30mm deep. The QA Inspector noted the excavation appeared to have been ground and blended to a weldable profile. The QA Inspector noted the Y location of the excavation was Y=520mm-693mm. The QA Inspector randomly observed the QC Inspector Jesse Cayabyab perform magnetic particle testing of the excavated area to ensure all weld defects had been removed, the QA Inspector noted the QC Inspector did not locate any relevant indications at the time of the testing. The QA Inspector randomly observed the ABF welder preheat and begin performing the shielded metal arc welding (SMAW) repair. The QA Inspector randomly observed the ABF welder to be utilizing 1/8” E7018 low hydrogen electrodes with 125 Amps. The QA Inspector noted the ABF welder spent the remainder of the QA Inspectors shift performing the SMAW repair. The QA Inspector noted the SMAW weld repair was not completed on the QA Inspectors shift.

4W/5W-A
Upon the arrival of the QA Inspector at the above identified location it was observed the OBG identified as 5W was pushed in to within 400mm of the OBG 4W. The QA Inspector performed a preliminary inspection of the condition of the beveled edges and grinding which had been performed on the transition welds in the top deck plate in the am. The QA Inspector randomly observed the longitudinal transition weld on the north end of the deck appeared to have been over ground. The QA Inspector noted the 14mm top deck plate appeared to had been reduced at the transition by over grinding to approximately 9mm near the edge of the bevel. The QA Inspector informed the ABF Welding Superintendent Dan Ieraci (see summary of conversations)

The QA Inspector randomly observed the ABF welder begin preheating the over ground area described above. Once the minimum required preheat temperature had been reached, the QA Inspector randomly observed the ABF welder begin the shielded metal arc welding (SMAW) repair. The QA Inspector randomly observed the ABF welder utilizing 1/8” E7018 low hydrogen electrodes with 135Amps. The QA Inspector noted the SMAW parameters appeared to be in general compliance with WPS-D1.5-1000-R2, the QA Inspector noted the SE QC Inspector Mike Johnson was present at the time of the welding. The QA Inspector noted approximately 4 SMAW passes were deposited over the ground out area. After the welding was completed the QA Inspector randomly observed the ABF welder perform grinding tasks and grind and blend the area flush with the parent base metal. The QC Inspector performed magnetic particle testing of the repair and informed the QA Inspector no relevant indications were located at the time of the testing. The QA Inspector performed dimensional measurements of the repaired area and noted the base metal appeared to have been restored to the original nominal thickness of 14mm.





Summary of Conversations:

The QA Inspector informed the Mr. Ieraci of the area of the transition which appeared to have been reduced to 9mm. Mr. Ieraci informed the QA Inspector he was aware of the over ground area and expressed displeasure with the ABF representative who performed the grinding. Mr. Ieraci informed the QA Inspector he has already instructed the ABF welder Rick Clayborn to correct the over ground area by welding.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer